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Addressing Emerging Public Health Issues through Interdisciplinary Research

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The life expectancy of people has increased from 45.51 to 72.63 years worldwide and from 34.26 to 70.88 years in Nepal between 1950 to 2020 suggesting that human beings are living longer than before.¹ However, there are numerous challenges fueled by globalization and disasters affecting the survival and existence of the human population. Since the turn of the 20th century, health has been a prime focus for individuals as well as nations. While on one hand, health systems continue to evolve with technology and innovation; on the other hand, population health issues have also grown and diversified. We have witnessed several public health emergencies in the past century, such as the 1918 influenza pandemic caused by the H1N1 virus of avian origin. It was the most severe pandemic in recent history which caused an estimated 500 million infections and 50 million deaths. Other major pandemics included 1957-1958 pandemic (H2N2 virus) and 1968 pandemic (H3N2 virus).² Similarly, the World Health Organization (WHO) declared a global health emergency for the 2009 swine flu pandemic (H1N1pdm09 virus), polio epidemic 2014, Ebola epidemic 2014, Zika virus epidemic 2016 and Kivu Ebola epidemic 2019. Most recently, WHO has declared novel coronavirus (COVID-19) as a pandemic on 10 March 2020.³ As of 10 August 2020, 19,687,156 confirmed cases and 727,435 deaths have been reported to WHO.⁴ The WHO, UN Foundation and partners launched a first-of-its-kind COVID-19 Solidarity Response Fund on 13 March to help countries respond to the COVID-19 pandemic.⁴

In addition to infectious pandemics, the world is currently facing emerging epidemics and issues of non-communicable disease (NCDs), neglected tropical diseases, environmental pollution and climate change, changing population dynamics, migration-related health issues, mental health and substance abuse, antimicrobial resistance, ageing population and finally man-made and natural disasters. Of particular importance is the climate catastrophe, the health implications of which may soon become an insurmountable problem, if not

addressed on time. Furthermore, climate-sensitive diseases and risks, population displacement, conflicts, violence, equity, food security, occupational hazards, pharmacovigilance and rational use of medicines are among other emerging issues that are linked to health and require urgent attention from the stakeholders including health and population community and governments. These emerging issues can only be dealt with inter-sectoral coordination and inter-disciplinary approaches. Nowadays, there has been a growing interest throughout the world to bring in expertise from different academic disciplines and collaborate to improve the health of the people. Public health issues cannot only be dealt with a single discipline as it will be insufficient to address the problem.⁵ As for example, NCDs can be better addressed if clinicians, public health professionals, dieticians, environmentalists, information technology experts, behavioural scientists, social scientists, economists and development specialists work in a team and integrate their research methods, approaches and technologies. It has been agreed that interdisciplinary research promotes knowledge sharing and building relationship among different stakeholders to answer complex research questions.^{6,7} However, the success of interdisciplinary research will depend on teamwork, clear and transparent role definitions, time, institutional support, funding, communication and incentive among others.^{8,9}

In order to initiate a discourse on the importance of inter-disciplinary research and provide a platform for researchers to share evidence on emerging public health issues, Nepal Health Research Council (NHRC) organized successfully its Sixth National Summit of Health and Population Scientists virtually on 6-7 July 2020 with the theme of "Addressing Emerging Public Health Issues through Interdisciplinary Research". The declaration of the summit is as follows:¹⁰

- Advancing interdisciplinary and implementation

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research in health with the involvement of federal, provincial and local government for contextually tailored evidence to inform policy.

- Continuing to promote health research networking and alliance among academia, healthcare institutions, scholars and researchers, with different stakeholders in national and international level.
- Facilitating to enhance knowledge and skills to conduct health research by young researchers and scientists by increasing capacity, building opportunities, and availability of research grants especially for the provinces.
- Strengthening the mechanism to promote maximum use of digital technologies in research process including dissemination.
- Strengthening translation of locally generated evidence into policies and practices through closer collaboration with policymakers.
- Promoting responsible conduct of health research in academic and non-academic institutions.
- Promoting health research in COVID-19 pandemic as per national guideline for strengthening evidence generation on COVID-19.

We believe that the above mentioned declaration is very timely and will help discuss and develop strategic directions for addressing emerging public health issues through interdisciplinary efforts in Nepal. Therefore, we urge all to promote the interdisciplinary research approach to tackle emerging public health issues. We also believe that the evidence generated from interdisciplinary research will be more robust, free from bias and more useful for evidence-informed decision-making process.

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